

- 22 -

CLAIMS

3. A flax seed that is the product of a plant line designated M5791 (American Tissue Culture Collection Deposit #PTA-5755), wherein the linolenic acid content of said flax seed is greater than 70%.

5 6. A flax plant designated M5791 (American Tissue Culture Collection Deposit # PTA-5755), wherein the linolenic acid content of said flax seed is greater than 70%.

7. Progeny of a flax plant designated M5791 (American Tissue Culture Collection Deposit # PTA-5755), wherein said progeny produce seeds having
10 a linolenic acid content of greater than 70% of the total fatty acid content of said seed.

8. The progeny according to claim 7 wherein the linolenic acid content is between 70%-80%.

9. Seed from the flax plants of any one of claims 6, 7 or 8.

13. A method of producing a flax plant line comprising the steps of:

15 (a) crossing a plant of a flax plant line designated M5791 (American Tissue Culture Collection Deposit # PTA-5755), wherein the linolenic acid content of said flax seed is greater than 70%-, or progeny thereof, with an agronomically elite flax plant; and

(b) selecting at least one descendant of said cross, said descendant
20 producing seeds having a linolenic acid content of greater than 70% relative to the total fatty acid content of said seed.

17. The progeny according to claim 7 wherein the linolenic acid content is between 70%-75%.

- 23 -

18. The method according to claim 13 wherein the linolenic acid content is between 70-80%.

19. The method according to claim 13 wherein the linolenic acid content is between 70-75%.

5